Headaches of Nasal Origin

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OF all the symptoms ailing individuals complain of, headache is undoubtedly one of the most common, and also one of the most protean in its causation, character, and significance.

Any patient suffering from a headache sufficiently severe to cause our advice to be sought should be thoroughly examined. Such a case will amply repay careful investigation. Simply to order a sedative is not a credit to the highest conception of modern medicine. In most cases, gastro-intestinal or gynæcological disorders, errors of refraction and septic foci, especially teeth, will not be overlooked, but comparatively seldom is the condition of the nose given the consideration it deserves.

In this paper I propose to deal with the main types of headache which have nasal disease as a causative factor. As nasal and para-nasal defects are very common, so also are nasal and sinus headaches much more common than generally realised. Especially is this so in damp climates. In climates such as ours, attacks of "cold in the head" are prevalent. This results in a hypertrophied condition of the soft parts in the nose and occasional bony changes. This hyperplasia, together with the narrowing of the ostia of the air sinuses, or pressure on the adjacent nervous structure, is the underlying factor in nasal headaches. Regarding climatic influence, I have noticed the incidence of nasal sinus trouble and headaches of nasal origin is higher in Ireland than in the drier areas of London and South of England. Sinus disease is the most usual and most important cause of these headaches. It should be noted that the amount of discharge from a sinus, or the absence of visible discharge, is no indication of the severity of the infection. I propose to take each sinus in turn and describe the type of headache which most commonly occurs in each case.

DISEASE OF THE MAXILLARY ANTRUM.—The pain is less typical than of any of the other sinus infections. Owing to the position of the ostium, the antrum does not drain satisfactorily, and the headache is therefore of a toxic nature.

In acute empyema there is pain over the antrum, which may radiate to the teeth, to the side of the head, or to the eye. It is often neuralgic in character, and is usually intermittent whenever there is any discharge.

In chronic maxillary sinusitis with a thickened lining membrane and pus, marked pain is rare, but there may be discomfort over the affected antrum. The same side of the head may ache, or supraorbital neuralgia may be present. If pus is not present, there are no subjective symptoms.

FRONTAL SINUS DISEASE.—The headache produced by frontal sinus infection is the most typical of all the para-nasal sinus affections. The pain is most intense immediately above the eye, and may radiate over the whole side of the head. It may vary from a dull ache to the most excruciating headache. It has a very definite periodic character which is pathognomonic of acute frontal sinus inflammation, and is of considerable assistance in differentiating the condition from neuralgia

of the supraorbital nerve. It commences in the morning soon after the patient gets out of bed, becomes progressively worse towards midday, and subsides gradually during the afternoon. At night the patient is free from pain. During the exacerbation the sinus is tender on palpation, but afterwards the tenderness disappears to a large extent. The fact that the pain is generally confined to one side of the head, and when severe may be accompanied by vomiting and some interference with vision on the affected side, occasionally leads to a mistaken diagnosis of migraine. The typical battlemented spectra of migraine are absent.

FRONTAL VACUUM HEADACHE.—This condition was first described by Sluder, and aroused great controversy in oto-rhino-laryngological circles, as many authorities contend such a condition does not exist. It is caused by closure of the inlet to the frontal sinus. It is generally produced by a hyperplasia of the covering mucous membrane and of the subjacent bone of the middle turbinate and anterior ethmoidal cell region. There is often an accompanying deflection of the septum. Owing to the duct being closed, the air in the sinus becomes absorbed, and consequently a partial vacuum is produced, which results in secondary passive congestion of the lining membrane. A dull frontal headache ensues, which is aggravated by movements of the eyeballs or on use of the eyes for close work. Marked tenderness will be found on pressing over Ewing's point. This is the thinnest part of the floor of the sinus, and is under the inner end of the eyebrow medial and posterior to the fovea trochlearis. It is therefore in close relationship to the pulley of the superior oblique muscle, and this accounts for the pain being intensified by eye movements. The marked tenderness on pressing over Ewing's area is found only in this and in suppurative frontal sinusitis. It is known as Ewing's sign. The tenderness is more marked than that of the frontal nerve, as it crosses the superciliary ridge.

ANTERIOR ETHMOIDAL DISEASE.—As a rule, the headache due to this condition is not acute, but more in the nature of a dull ache, and is generally in the parietal area. If there is severe suppuration, the pain may extend to the temporal area.

ANTERIOR ETHMOIDAL NERVE NEURALGIA.—Sluder was the first to describe this condition. The anterior ethmoidal nerve enters the upper anterior limit of the nose through the small ethmoidal sulcus of the nasal bone. At this point it lies very superficial. Inflammation or pressure in this area is likely to affect the nerve and produce headache. The pain, which is not intense, is generally most marked between the eyebrows, and as a rule does not radiate to any great extent. Patients often complain during the attack that the wearing of eyeglasses is uncomfortable. They do not associate this with the use of the eyes, as is usually the case with vacuum frontal headache, but with the pressure of the bridge of the glasses upon the painful area at the root of the nose

POSTERIOR ETHMOIDAL AND SPHENOIDAL DISEASE.—The pain due to this group of sinuses is fairly typical. There is a history of frequently recurring headache, which is most often localised in the occipital area. It is not acute, and has more the character of pressure.

SPHENO PALATINE GANGLION NEUROSIS.—This is another very interesting condition which was first described by Sluder. The sensory nerve supply of the nasal

mucous membrane is furnished mainly by the maxillary division of the trigeminus, through the branches rising from the spheno palatine ganglion. This ganglion is situated close to the outer nasal wall and to the posterior end of the middle turbinate. It usually lies two to four millimetres from the nasal mucosa. As it lies close to the posterior ethmoidal and sphemoidal cells, it is reasonable to suppose that the ganglion can become involved by extension of any inflammatory process from the nose proper. Any inflammation of the ganglion results in a group of nervous phenomena. In the prodromal stage there may be coryza and sneezing accompanied by nasal congestion. This is shortly followed by pain at the root of the nose, in the pharynx, the eye, upper jaw, and teeth, radiating to the temple, ear, occiput, neck, and even to the fingers. Redness and swelling of the external nose may occur. Diagnosis can generally be made by these symptoms, although it is uncommon for a patient to manifest them all. If cocainizing the ganglion controls the symptoms, the diagnosis is confirmed. A few years ago a Continental oto-rhino-laryngologist put forth a somewhat similar explanation of the nervous mechanism by which Sluder explains many of the neurological symptoms originating from the spheno-palatine ganglion. He adopted the theory or doctrine called centrotherapy, by the practice of which he hoped to relieve pain in the head, and all types of pain generally, simply by a light cauterisation of the mucous membrane of the middle turbinate and middle and inferior meati, followed by massage of the mucous membrane with a special ball-like applicator. He attracted a great deal of attention. The daily press reported on it, and many people flocked to him in the hope of getting relief from various painful afflictions. Ramon Castroviejo, in 1929, ran a series of five hundred cases, using the same technique. He came to the conclusion that in many cases the pain was relieved, that it was a powerful suggestive method of treatment, but of practically no value in organic disease.

MIGRAINOUS HEADACHE.—To mention migraine in this paper may seem out of place. I do not intend to refer to the various theories regarding its etiology, but to mention very briefly nasal disease as an exciting cause of the attack. I recognise the exciting causes are various, and differ in individual cases. Eye-strain, mental or physical fatigue, prolonged anxiety and worry, errors of diet, excessive consumption of alcohol, etc., are frequently referred to, but very seldom is the nasal factor considered. In the last seven cases of migraine referred to me I have made a very careful nasal examination. These patients all had the typical migraine history including the visual disturbances. Each had a small error of refraction, and reported that some relief was experienced when this was corrected. In two of the cases I could not discover any nasal defect. Two of the remaining five had hypertrophic rhinitis. The middle turbinates were not enlarged, the inferior slightly. One gave a history of occasional watery discharge. In the case of these two patients I cauterised the inferior turbinates and ordered a nasal spray. I have examined them several times since and repeated the cautery. One states there is no change, while the other reports some improvement, but nothing marked. With the remaining three patients the results were much more satisfactory. In each case the middle turbinate was pressing against the septum and the septum was deviated. The

deviation was not very marked, except in one case, where the middle turbinate was greatly enlarged. This patient gave a history of post-nasal discharge, which I discovered was from the posterior group of cells, while the other two reported a watery discharge, seldom noticed except during the attacks. In the case of the patient with the very enlarged middle turbinate, I performed a turbinectomy. In another I fractured the turbinate, and in the remaining case merely cauterised the turbinate. All were ordered a nasal spray. In each case the frequency of the attacks has been greatly reduced and the severity considerably diminished. The patient whose turbinate I fractured has had the most gratifying result. Instead of having an attack once or twice weekly, there is now an interval of about six weeks. In this case, application of the cautery when the attack is coming on seems to have an influence in checking it. This is doubly satisfactory to me, as this patient is my secretary. In this case and the case of the patient who had a turbinectomy performed, I propose to do a sub-mucous resection at a later date.

In conclusion, I wish to repeat that in investigating the cause of headache, the more usual sources having been excluded, the nose should be thoroughly examined, as in many cases it will prove to be the source of trouble, even when there are no obvious signs of nasal disease.

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REVIEW

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It is unfortunate that the medical student must ever keep before him the exigencies of the examination, but while this state of affairs exists, there will always be a demand for such help as the question-and-answer type of book supplies. Messrs. Livingstone's Catechism Series is well known and is kept up to date. New editions are constantly being published, and amongst recent issues are Anatomy, Forensic Medicine, Chemistry, and Materia Medica. The latter issue is of particular importance, as it is based on the latest edition (1932) of the British Pharmacopœia.